

Abstract

An inexpensive and precise magnetic field sensor which comprises a Hall element and an amplifier is provided.

The magnetic field sensor comprises: a Hall element for outputting a signal in accordance with an applied magnetic field strength to an output terminal; a switch circuit for inputting the signal of said output terminal of said Hall element and for outputting a signal selected by a signal comprising first and second phases given from the outside of said switch circuit; an amplifier wherein at least one input terminal is connected to the output terminal of said switch circuit and a voltage gained by amplifying the signal of this input terminal is outputted to an output terminal; a first memory element of which one end is connected to said output terminal of said amplifier; a switch of which one end is connected to the other end of said first memory element and which carries out opening and closing operations by means of said signal comprising the first and the second phases given from the outside of said switch; and a signal output terminal connected to said other terminal of said first memory element, wherein said switch closes in said first phase so that said first memory element stores an output voltage of said amplifier and said switch opens in said second phase so that a vector sum of said voltage stored in said first memory element and an output voltage of said amplifier is outputted to said output terminal.